

K26(G76)

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Proposal Abstract K26(G76)

1. Arms Control Problem:

Nuclear weapons - comprehensive test ban

2. Verification Type:

- (a) Seismic sensors - international network
- (b) International exchange of information

3. Source:

United Kingdom. "Working paper on the UK's contribution to research on seismological problems relating to underground nuclear tests". CCD/486, 12 April 1976.

4. Summary:

The paper suggests a possible seismic network of 20-25 stations (depending on whether stations in the USSR were included) distributed as evenly as possible over the continents. Each station would be equipped with a British type array of seismometers with digital recording of its output so that any spectral band of interest could be reproduced. It would not be necessary to resort to the large and expensive arrays for long period instruments specified in CCD/296* since seismometers of existing design might suffice. The choice of sites would be dictated by geology and low noise level criteria rather than by easy logistics. Each control station would be equipped with an array processor. Data would be communicated by either radio or telex to all cooperating centres.

A network such as that above could detect and identify an explosion of between 3 and 50 kt depending on the location of the explosion and chance noise level. If decoupling or other evasion methods were employed, the lower half of the yield band would not be detected at all.

The cost of deploying 20 control posts of the above type would be about £5 million with an operating cost of £25,000 per station per year.

* See abstract K10(G70)